

WHAT DO  
CHILDREN OWE  
THEIR PARENTS?

PSYCHEDELICS:  
HOW THEY  
CHANGE PEOPLE

THE SKILL  
THAT BOOSTS  
WELL-BEING

HOW TO TRULY  
HELP YOUR  
PARTNER

# Psychology Today

PSYCHOLOGYTODAY.COM  
FEBRUARY 2023

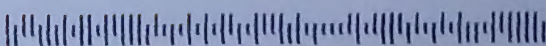
## FIND YOUR PURPOSE

HOW TO  
BUILD A  
MEANINGFUL  
LIFE

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# Editor's Note



## The Journey Starts Here

*Finding purpose in a frantic world.*

It was a wild looking night to go to sea, but time is too precious to lose even a bad portion of it.

—Charles Darwin  
July 24, 1833

**I**N READING DARWIN'S journals, I always imagine him seasick and pocked with scurvy, yet wholly undeterred. Here is a man whose life's purpose was clear to him very early, long before he realized how meaningful his work was to become in the scope of history.

Darwin always knew what was important to him.

Few of us are as purposefully focused as was Darwin. We move through the days knowing we are not always honoring our priorities and best intentions. Sometimes these align only under duress or with acute change: a new relationship, job, or child. But also...loss, illness, and death.

The goal: To clarify our sense of purpose before life circumstances make it thunderously clear.

And that clarity starts with tapping into our own values. We hope the range of insight in these pages will help light your way forward.

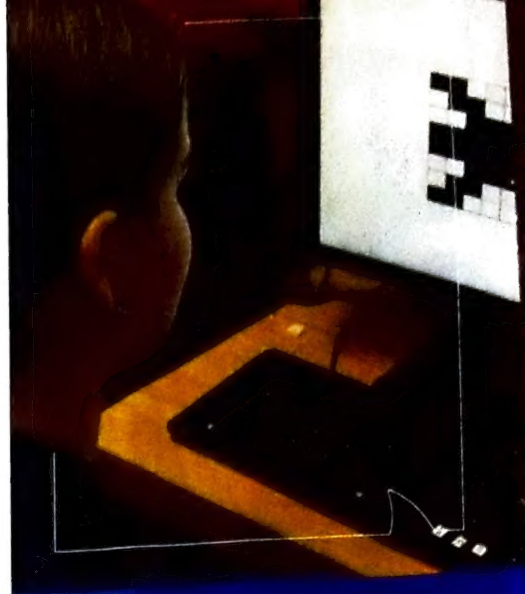
We're not all Darwin. But, for each of us, our own journey feels every bit as meaningful as the *HMS Beagle's* voyage turned out to be.



Kajz

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# InSights

## Get Comfortable Giving Honest Feedback

*People want constructive criticism.  
Here's how to deliver it.*

**S**HOULD YOU ALERT an acquaintance to the spinach in his teeth? Or discreetly tell a coworker she's been mispronouncing a client's name? Many people hesitate to offer such constructive criticism, even when the benefits to the other person seem obvious. Recent research finds that a common cognitive error may help explain why—and that a simple intervention could help overcome it.

In five experiments, study participants imagined or recalled giving constructive feedback to others, both loved ones and strangers, or participated in real-time interactions in which they gave or received feedback. Those who gave feedback estimated how much the other person wanted to hear a well-intentioned criticism; receivers reported their actual desire for constructive critiques.

Feedback-givers consistently underestimated how much others wanted to hear helpful criticism. The miscalculation was particularly pronounced when the feedback was deemed consequential, as well as when those offering the information predicted that doing so would be socially uncomfortable, either for themselves or for the receiver.

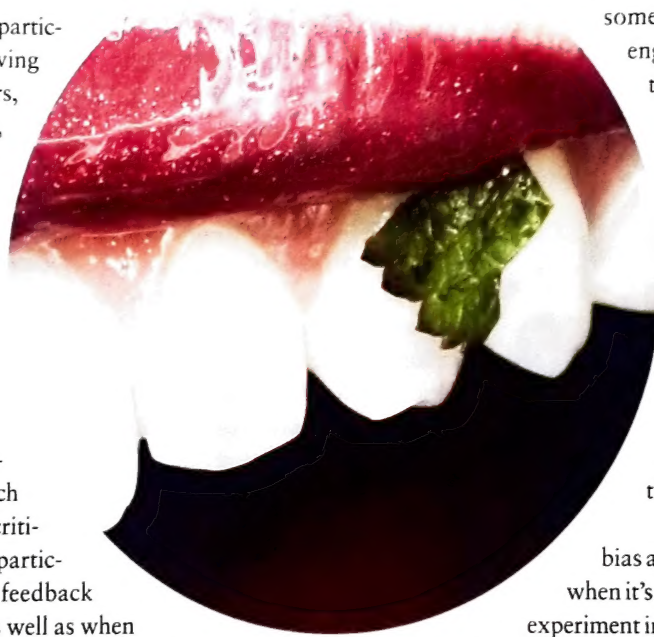
The underestimation is likely due to a human tendency, well-established in past research, to ascribe different motives

and desires to others than we do to ourselves, says Harvard doctoral student Nicole Abi-Esber, who authored the study with Jennifer Abel, Juliana Schroeder, and Francesca Gino. We tend to want feedback for ourselves, she explains, but “because we’re not putting ourselves in the other person’s shoes, we underestimate how much they want it, too.”

Forgoing offering constructive criticism could have consequences. In one study, some of the subjects were asked to engage in a public-speaking contest, potentially earning money if they won, while the other participants gave feedback to the first group as they prepared. Feedback-givers again underestimated the speakers’ desire for constructive criticism, often opting to give them compliments instead. Yet it was the speakers who heard more critical feedback who showed the most improvement.

Is it possible to overcome this bias and get better at giving feedback when it’s most needed? The results of one experiment indicate that a quick perspective-taking exercise could move the needle. “Take a second and imagine you are the other person,” Abi-Esber suggests. If you’d want feedback if the roles were reversed, it’s likely the other person feels the same—and might even be grateful that you took the time to speak up.

—Devon Frye





## Gaining Perspective On Aging

Thinking about how you'll grow as you age could help you live longer.



**HOW YOU** think about aging can play a key role in how long you actually live—and new research finds that a particular set of beliefs may be es-

pecially beneficial for boosting longevity.

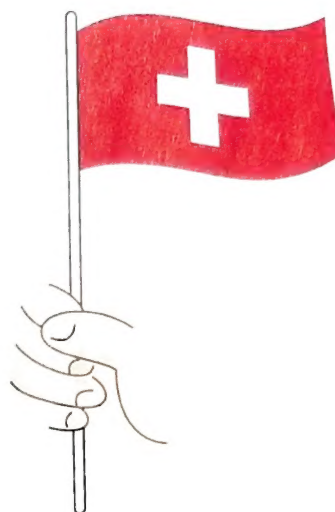
Writing in the *Journal of Personality and Social Psychology*, researchers followed 2,400 adults, ages 40 to 85, for up to 23 years. They tracked mortality and asked participants to self-report their subjective age—that is, how old they felt—and their self-perceptions of aging (SPA). SPA were classified as either gain-related (for example, "Aging means that I can learn new things") or loss-related ("Getting older means I am less healthy").

Participants who most strongly endorsed gain-related beliefs—that is, who most believed that aging offered opportunities for growth—were the least likely to die over the course of the study. Loss-related beliefs had no apparent effect on mortality, nor did participants' subjective age. A gain-related mentality appeared to benefit the middle-aged as much as it did older individuals.

Getting older comes with inevitable loss, and ignoring this reality is neither possible nor advisable. But when aging starts to take a toll, focusing on what you have left to gain—things like experience, wisdom, and social connectedness—could help you enjoy even more of your later years.

—Susan Krauss Whitbourne, Ph.D.

**INDIVIDUALS WITH GAIN-RELATED BELIEFS LIVED, ON AVERAGE, 13 YEARS LONGER.**



## THE RISKS OF "STAYING OUT OF IT"

*Adopting a neutral position to placate both sides may backfire.*

**M**ODERN POLITICAL discourse is nothing short of contentious, especially in the U.S., and people of any partisan persuasion risk being socially penalized for expressing the "wrong" view at the wrong time. Some try to sidestep this danger by staying neutral when hot-button topics are raised. Recent research, however, warns that their strategy may come with its own risks.

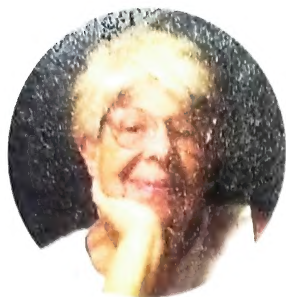
In 11 studies, individuals who declined to take sides when asked their opinion on morally-charged political issues like gun control or abortion were seen by participants as deceptive and untrustworthy. This appeared to be because participants assumed the neutral person was secretly in opposition to the beliefs of whomever they were speaking to, whatever those were, yet trying to hide this fact behind a veneer of impartiality.

Liberals and conservatives both already consider their opponents untrustworthy—but those

who adopt a seemingly deceptive neutral stance may incur an even worse penalty. Individuals who opposed participants' views outright were deemed more trustworthy, and more worthy of cooperating with, than those who remained neutral. "It's bad to be on the other side," explains study author Ike Silver, a professor of marketing at Northwestern University. "But it's even worse to be on the other side and try to be sneaky about it."

How can the truly neutral avoid being punished for an in-the-middle or undecided stance? In the study, neutral parties who were able to justify their beliefs—explaining that they saw merit on both sides, for instance, or didn't know enough to form an opinion—suffered less severe consequences than those who seemed to be staying out of it just to save face. "If you're truly in the middle, it's good to communicate why," Silver suggests. "The more you're willing to say, the less you'll be penalized for it." —DF





**HARA ESTROFF MARANO**  
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## What Children Owe Parents

I've lived with my elderly, widowed mother, 89, all of my 48 years. She depends on me for cooking, cleaning, shopping, and personal care. I now have an opportunity to have my own place, but my mother insists she needs me to take care of her. She is mobile and financially secure but lacks the confidence to run errands and gets anxious when she doesn't get her way. My three siblings are married with families and do not live nearby. I fear that, if I move out, she'll have a nervous breakdown and die, and I'll be left with overwhelming guilt. I have chronic fatigue. Please help me decide what to do.

Your dilemma goes to the heart of two age-old questions: What do parents owe their children, and what do children owe their elderly parents? Both warrant scrutiny because your history suggests serious derelictions on each side are feeding your predicament.

Children do owe something to aging parents. But why is the burden not shared among your siblings? It's bad enough that your mother created the circumstances, but why do your siblings endorse and perpetuate the situation? There are many ways they can share in her care from a distance.

Whether you assumed your sense of responsibility or it was assigned to you (dysfunctional families have ways of doing that), you alone have become a prisoner of your mother's emotional neediness. The outsize sense of guilt you feel for even contemplating an independent life may lead you to imagine overly dire consequences for your mom if you do something for yourself—no matter how overdue. You owe your parent care, but not your life.

Having sacrificed your own needs to another's demands suggests that you could benefit from learning how to speak up for yourself. The skill will serve you well as you move forward.

Much as grown children owe parents something, parents owe their children, too—preparing them to

**You owe your parent care, but not your life.**

lead their own life, develop their own talents and skills, and pursue their own path to happiness. Your mother has placed her own emotional needs well above yours, exploiting your inability to assert yourself—rather than seeking ways to remedy it.

However much your mother may be overplaying her emotional fragility to keep you doing her bidding, you have encouraged her dependence by not speaking up about the burden on you. It is never too late for enlightenment. The necessary course is to establish new arrangements for parental care shared by four siblings. That will take numerous conversations and will test your assertiveness skills, but so will the life you plan to lead, the one to which you are as entitled as your sibs.

*Then another note arrived: "My mother had a fall on Friday and may not recover. Perhaps now I can get a job and live a normal life."*



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# Personality

ECCENTRIC'S CORNER

## Touching The Stars

*Astrophysicist and artist **Nia Imara** draws on art and science to bring the night sky down to Earth.*

**By Devon Frye**

# I

**N** AN EARLY self-portrait, Nia Imara sketched herself holding the stars in her hands. Now an artist and a professor of astronomy and astrophysics at UC Santa Cruz, Imara, the first Black woman to earn a Ph.D. in astrophysics from UC Berkeley, is doing just that—creating three-dimensional models, small enough to fit in her palm, of stellar nurseries, the interstellar clouds in which stars are born. It's just one of the ways she's working to bring the wonders of the universe to Earth. She also helped spot the first potential planet identified outside the Milky Way and founded a nonprofit, Onaketa, that provides free STEM education to kids of color. She spoke with *PT* about what we can learn about ourselves by looking to the stars.



COURTESY NIA IMARA



Imara's 3D-printed models bring stellar nurseries to life.



**How do art and astronomy connect for you?** I paint what I love, and one of the things I love is color. My paintings tend to be filled with bright colors, saturated colors, colors that accentuate the person I'm painting and complement them in unexpected ways. Astronomers are also experts at decoding color. Along with light, color tells us the vast majority of what we know about the universe. We know that blue stars are hotter than red stars, for example; we also know that blue stars are much more massive and tend to have very short life spans compared to red stars, which can shine for billions of years. The sky is incredibly colorful, far beyond what we can see with our human light detectors.

**There's so much of the night sky that humans can't see. How does your work try to bridge that distance?** I've been focusing on stellar nurseries—huge regions of gas and dust that have the potential to form stars—for much of my career. Stars are the visual building blocks of the universe. We know that all of them form in stellar nurseries, and we have beautiful images that show us what these environments look like and allow us to determine the temperature, the

presence of magnetic fields, things like that. But these images are flat; they don't give us any information about the depth or the structure.

**Is that where art comes in?** I think so. It offers the power to take something abstract or distant and make it concrete. My collaborators and I have taken everything we've learned about stellar nurseries from observation and put the ingredients in a computer simulation that allows us to build nurseries and 3D-print them. They're little sculptures, in a way—they're interactive, they're tangible, and they're revealing new components of the nurseries' structure and allowing us to understand them in more nuanced ways.

**What challenges does making the intangible tangible present?** Scientists have to make a lot of subjective decisions; the models are a good example of that. We made the aesthetic choice to make the nurseries into spheres, for instance; we could've made them in any morphology we wanted because there's a lot we still don't know about the shape of these molecular clouds. But in a sense, that's the definition of what a model is: We're making choices,

we're simplifying down to what we think is the essence of that thing. We as scientists just need to be transparent about the things we've left out, the motions that we make, the things that we're unsure of. And as we gain more information and build on our knowledge, we'll be able to make the models even better. That's an inherent part of the scientific process.

**Even though astronomy is still largely theoretical and remote, you've said it's one of the most powerful tools for engaging the public in science. Why?** Astronomy provokes a childlike curiosity in ways that other sciences often don't. When people look up at the sky or imagine outer space, it takes them outside of themselves; it allows them to wonder, to imagine. That's a big part of being human and always has been. I sometimes say that astronomy is the oldest science—for as long as humans have been looking at the sky, they've been practicing it in one form or another. In the teachings or mythologies of various cultures, there's often a story about how people come from the stars or are connected to the stars. With modern astronomy, we know that to be true: We do literally come from the stars.

**How are you working toward your goal of wider access to science?** My own experience has helped solidify my understanding that our current educational system has failed and continues to fail far too many children. If so many Black, brown, and poor children are getting an inferior education to begin with, how can we be said to be effectively engaging the public in science? Onaketa, a nonprofit that provides free STEM tutoring for Black and brown youth, is an outgrowth of the education work I've been doing for a long time. We're coming from the position that our children need access to more opportunities. We're doing what we can for a community that has been, in many ways, failed and left behind. ■



# Health

SUPPLEMENTAL SCIENCE

## Feeding Immunity

*Outwitting seasonal pathogens requires several specific nutrients.*

By Hara Estroff Marano

**I**T'S WINTER, AT least in the northern hemisphere. That means cold and flu season is in full swing, and COVID-19 is still making a stand. Your immune system is your major line of defense, protecting you against pathogens novel and familiar.

Stunningly complex, the immune system has many moving parts, with many types of cells, communicating molecules, and fast-mobilizing players to protect you (and me) against a huge array of threatening agents. The immune system is typically seen as having two basic parts. An “innate,” or “natural,” compartment of nonspecific warriors swings into action to tackle all kinds of invaders by engulfing them and by setting up hostile conditions, such as inflammation in tissue under siege, and other general measures.

The so called “acquired,” or “adaptive” compartment of the immune system consists of special ops forces, various types of cells that target specific types of invaders, once they’ve been informed by frontline cells on the character of the interlopers. There are the B cells, which produce bespoke anti-

bodies to neutralize the pathogen. And there are T cells that engage in mano a mano combat with specific antigens on invading cells.

All the immune cells in the body originate in the bone marrow. Once they encounter a specific pathogen, they develop a memory for it, enabling the body to swiftly recognize and mobilize against it, should that same bug reappear in the future. One of the first tasks of the immune system is to rec-

ognize microbes and identify whether they are harmful or not.

Maintaining a robust—but not hyperactive—immune response depends on many factors, some of which you have no control over: your genetic inheritance, your stage of life, even the time of day. But you have quite a say in some other factors—your stress level, physical fitness, and body fat, to name a few. Perhaps the fastest-acting factor to which you contribute is your





nutritional status. What you choose to eat influences the function of the immune system—just as it does every other system of the body.

Nutrition is involved in immunity at many levels. Among the many ways diet influences immune response:

- Supplying fuel for the system to function.
- Furnishing building blocks for RNA, DNA, and such proteins as antibodies, cytokines, and cell receptors. Providing substrates for various other immune-active compounds.
- Regulating immune cell metabolism.
- Supplying nutrients—such as zinc and vitamin D—that have specific antibacterial or antiviral functions.
- Protecting against the oxidative and inflammatory stress of infection-fighting.

Several micronutrients have a particularly important role in immunity—vitamin D, vitamin C, zinc, and selenium are among them. Deficiencies of the nutrients are known to impair immunity.

Best known for its role in bone health, vitamin D plays a still-unfolding role in cell physiology and immune operation, most notably in the form known as D3. It stimulates production of substances that are part of the front-line innate immune response against bacteria and viruses and may keep pathogens from gaining a foothold.

Many studies have shown that vitamin D deficiency is associated with an increased risk of COVID-19 and other respiratory infections. Some small-scale experimental trials demonstrate that correcting D deficiency reduces the risk of hospitalization, ICU admission, and death from COVID-19 infection. While the vitamin bolsters innate immunity, it also keeps the inflammatory response under control, preventing the so-called “cytokine storm” linked to organ dam-

## Immune Players

■ **Cytokines.** As intercellular messengers, some are key in stimulating inflammation, some in tamping it; they signal the brain to initiate sickness behavior, such as increased sleep.

■ **Mast cells.** In mucous membranes, they kick off the immune response when activated by antigens, releasing many cytokines.

■ **Macrophages.** Innate agents circulating in blood, they surround and consume bacterial invaders.

■ **B cells.** Warriors of adaptive immunity, they produce antibodies specific to the invading bug, neutralize it, and mark it for destruction.

■ **T cells.** Also adaptive agents, they directly kill and remove pathogens from the body and also trigger B cells.

■ **Natural killer cells.** Part of the innate response, they destroy invading viruses and tumor cells without any prior priming or exposure.

age and death.

Vitamin D deficiency and its subacute version, vitamin D insufficiency, are widespread, especially in winter, when exposure to D-inducing sunlight diminishes just as the flu virus makes its seasonal rounds. In fact, some theorize that it's the decrease in vitamin D levels that is the seasonal stimulus for the flu virus to spread.

It's still largely an open question whether supplemental amounts of the vitamin—or how much or when—can protect against influenza infection.

Second only to iron as the most abundant trace mineral in the human body, zinc is essential for many enzymes in the always-on chemical factory known as the human body. It also plays a role in the creation of DNA, and it supports the activity of many types of cells in both the innate and

adaptive immune response, particularly natural killer cells (innate) and antibodies (adaptive). It also has specific antiviral actions, including inhibiting the replication of coronaviruses. And while it's doing all this, it's preventing body cells from free-radical damage.

Evidence indicates that zinc will not protect against getting an upper respiratory infection. But zinc supplementation has been shown to shorten its duration.

Selenium is another trace mineral necessary for the immune response. Like zinc, it supports natural killer-cell activity of innate immunity and bolsters that quintessential adaptive immune function, antibody production. It's also a major antioxidant, protecting cells against oxidative stress while marshaling defensive forces. Necessary as selenium is as an antioxidant and immune protectant, it's needed only in small amounts, best obtained via diet—Brazil nuts, shellfish, and organ meats.

Not to forget Vitamin C. It plays a role in every aspect of immunity, from bolstering the barrier function of skin to rustling up antibodies. It's also a powerful antioxidant that is quickly depleted during infections, when the body is under siege and rapidly producing infection-fighting cells.

Vitamin C deficiency is rare in the developed world, but there's evidence that current recommendations for intake of the vitamin are too low. Further, vitamin C has a profound effect on the health of the gut microbiome, particularly in abetting microbial diversity—and a diverse microbiome is a key regulator of the immune system.

Even in healthy adults, vitamin C supplements significantly shift the balance of bacteria in the gut in healthy ways. No wonder many studies show that vitamin C supplementation reduces the severity and duration of colds. ■



# Health HUNGER



## Tuning In To Hunger

*Another way to eat “right.”* By Gabrielle Ferrara, LCSW

# W

E ARE BORN intuitive eaters. Have a meal with a toddler: They may take two bites of food and then decide they're done, only to ask for food again in an hour. The toddler is tuning in to our innate ability to intuitively eat, to recognize cues for hunger and fullness.

But we live in a world full of schedules, deadlines, and commutes. These factors can inhibit our ability to eat intuitively, encouraging us to ignore natural hunger cues. Our bodies are not a math problem to be solved. When we eat intuitively, we eliminate the mental gymnastics that accompany eating in a diet culture. The effort we put into making food decisions can backfire, resulting in a cycle of restricting and bingeing.

Intuitive eating, an “anti-diet” concept developed by Evelyn Tribole and Elyse Resch in the late 1990s, identifies four different types of hunger. Since the publication of their book, *Intuitive Eating*, more than 150 studies have expanded on their theory.

### Physical Hunger

Physical hunger is what most people ascribe to the term *hunger*. It can manifest as a growling stomach, a headache, feeling faint, and a variety of other physical symptoms.

In a perfect world, we would tune in to physical hunger by eating when our bodies feel hungry, but that's often not possible. One way to address this challenge is to have quick, easy snacks on hand throughout the day to satiate your hunger cues without too much disruption.



## Taste Hunger

Taste hunger is the desire for a specific food due to its taste. Nutritionist Rachel Helfferich calls it eating what "sounds good" to you. Unfortunately, diet culture sometimes gets in the way of tuning in to this type of hunger by hardwiring us to value foods as "good" or "bad," causing us to ignore our taste hunger.

When faced with a decision about what to eat, take a moment to pause, breathe, and check in with yourself. You might get a "gut feeling" when you imagine eating a certain food and think, Ah, that's what I wanted. When you have this moment, listen to it. Try not to let diet culture or overthinking creep in.

## Emotional Hunger

Emotional hunger is eating to satisfy an emotional need. When you practice tuning into your hunger, you'll eventually be able to distinguish emotional hunger from the more biological physical hunger.

Emotional hunger gets a bad rap, but the criticism is most often attributed to its extremes. This type of hunger exists on a continuum, from mild sensory gratification and comfort to bingeing and punishment. In its milder form, we can turn to food to satisfy positive emotions. Consider holidays like Thanksgiving, where food is a significant part of the celebration and a symbol of togetherness. A grilled cheese on a rainy day can be a way to self-soothe. Hot apple cider on a winter night can bring you happiness and coziness.

Further along the spectrum, if you're eating to me in until you can't breathe, this may be a sign that you're misplacing your feelings and could benefit from seeking help in dealing with the underlying emotions driving this type of eating.

Avoid assigning moral value to a type or quantity of food, as this invites feelings of shame or embarrassment. We can feel free to eat for emotional reasons without burdening ourselves with guilt or feeling that we need to "make up for it."

## Practical Hunger

Practical hunger is the act of eating even in the absence of hunger cues because you know you might not have a chance to eat again for a while. This may be the most important type of hunger for people with busy schedules. Practical eating protects us from getting too hungry later.

Let's say you are a therapist with back-to-back sessions from 5 to 8 p.m. Maybe you aren't hungry for dinner before that, but it's the only chance you'll have to eat for the next few hours, so you have a bite before your sessions, even though you are not experiencing physical hunger cues.

With practical hunger, you can always check in with your hunger cues later on and decide if you need more food and then make a decision based on your intuitive self-assessment. By preparing for practical hunger, we protect ourselves from getting too hungry and feeling the negative effects of restriction or lack of nourishment.

I often ask my clients: "Do you ever wonder what would occupy your brain if you weren't stressed or overthinking about food and your body so often?" Eating intuitively allows us to use our cognitive functions in other areas, to focus more on the important stuff—our mental health, well-being, and ability to think about what's meaningful in our lives. ■

**Gabrielle Ferrara** is a licensed clinical social worker in New Jersey.

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**Ph.D. in Language Acquisition**

**Ph.D. in Language Acquisition**

**Specialization in Language Acquisition**

**and Language Acquisition**



# Treatment

Therapy



## Why Therapy Works

*Psychological flexibility  
is a fundamental skill for  
mental health.*

By Steven C. Hayes, Ph.D.

# WHY

DOES  
psychotherapy work? The practice  
involves an element of mystery—just  
what is it about therapy that can gener-  
ate such profound change?

About five years ago, my col-  
leagues—Stefan Hofmann, Joe  
Ciarrochi, Baljinder Sahdra, and Fred  
Chin—and I decided to look at all  
successful mediational studies done  
on a psychosocial intervention in a  
randomized controlled trial targeting  
a mental health outcome. We had no  
idea what we were in for. It was a huge  
effort that took nearly 50 people over  
four years. More than 54,000 studies  
were rated twice to see if the analyses  
were properly done; we ended up with  
281 clear findings using 73 different  
measures. The results were published  
in the journal *Behaviour Research and*

*Therapy*.

As you might have guessed, we  
discovered that there is not just one  
pathway to change, but many, each  
supporting people differently in differ-  
ent contexts. The surprising finding,  
however, was that one particular  
combination of skills proved far more  
commonly effective than anything else.  
It was more frequently found than self-  
esteem; support from friends, family,  
or a therapist; or even whether or not  
a client had negative, dysfunctional  
thoughts. The most common pathway



to change, relied upon psychological flexibility. Flexibility skills and closely related concepts accounted for about 55 percent of the explanation for successful therapy.

### 3 Skills of Psychological Flexibility

We can now say that psychological flexibility is the most commonly proven skill of importance to mental health and emotional well-being. Whether you suffer from anxiety, depression, addiction, or another form of mental distress, developing psychological flexibility in therapy helps you deal with these conditions effectively and move your life in a meaningful direction.

What does psychological flexibility entail? It's best to think of it as three skills in one.

**Skill 1: Awareness.** The first skill of psychological flexibility is awareness. This means noticing what happens in the present moment: What thoughts emerge? What feelings? What sensations? It also means noticing these things from a more spiritual part of yourself.

The “now” cannot be experienced with words alone—it needs to be attentively experienced. It's the difference between talking about the flavor of an orange and actually tasting the fruit. The latter is much richer than the former. Instead of being caught up in your own head, awareness is about being in the here and now. And even more, it entails the ability to deliberately direct, broaden, or focus on different aspects of your experience.

**Skill 2: Openness.** The second skill of psychological flexibility is openness. This means allowing yourself to feel and process difficult thoughts and painful feelings—exactly as they are, without their necessarily having to change before you move

toward the life you want to live. This can be counterintuitive and hard to grasp because people tend to seek therapy precisely to get rid of their negative thoughts and feelings. Unfortunately, the mind does not work this way. Generally, the harder you try to eliminate pain, the more it will control your life. Instead, openness is about dropping the internal fight, allowing thoughts and feelings to be what they are—merely thoughts and feelings—without their needing to control you. Ironically, when you adopt that open posture, thoughts and feelings often change in a more positive direction.

## The “now” cannot be experienced with words alone.

**Skill 3: Valued Engagement.** The third and final skill of psychological flexibility is valued engagement. This means knowing what matters to you and taking steps in that direction. It involves being in contact with your goals—objectives you want to reach or achieve—and your values—those personal qualities you choose to manifest and be guided by, regardless of a specific outcome. These matters need to be freely chosen, rather than being forced on you by others or mindlessly followed out of custom. Once you have clarity about what matters, you can take action to build sustainable

habits that make life more meaningful.

### Psychological Flexibility Reorients Us

The first two skills of psychological flexibility create a working approach to mindfulness skills. In close connection with other processes of change, psychological flexibility and mindfulness are the smallest set of skills that do the most good in the most areas.

We now know a major part of the answer to the question: Why does therapy work? It often works by establishing greater awareness, openness, and values-based engagement in life.

When you are frustrated at work, you can notice your frustration, allow it to be, and still take steps to complete your assignment. When you are in a fight with your spouse, you can acknowledge the pain, embrace it as a learning opportunity, and make plans to move forward stronger together. Psychological flexibility empowers you to stop fighting yourself and orient your life toward meaning. It is accessible to you right here and now. And just as with any skill, the more you practice, the better you will become.

The history of science and human development shows that when we have a clear target, we can learn how to move toward it. Processes of psychological flexibility are not the only ones of importance in creating mental health, but they are the most universally significant ones.

The opportunity to develop these vital skills in therapy gives us all a target for change. ■

**Steven C. Hayes, Ph.D.,** is a Nevada Foundation professor in the Department of Psychology at the University of Nevada Reno.





5

Ways  
to  
Find  
Purpose

Knowing what you value  
will help you build the  
most meaningful life  
possible.



# How to Connect With Your Values

**Distinguish your goals from values and obtain direction, meaning, and motivation.**

By Steven Hayes, Ph.D.

ONCE, I ASKED a particular client about her deepest values. She paused for a long time before finally saying: "That's the scariest thing I've ever been asked." She began to cry. "I've not thought about that in a long, long time."

Unfortunately, this is not uncommon. It's easy to get bogged down in daily chores and habits while losing sight of what matters most. Like a cog in a machine, we might function on the outside but are actually stuck inside, repeating the same old motions, unable to change or even see a different way of living.

We might have mindlessly adopted the values and goals of our friends and family, never daring to explore our own out of fear that they might deviate from our cultural upbringing. Or we might have come to doubt our ability to pursue a different path because we are not smart enough, not confident enough, not good-looking enough, or simply, not enough.

There are many reasons why we lose touch, and they all lead to suffering—because humans are not mindless machines following a programmed script but rather breathing beings with a yearning for meaning and self-direction. Without purpose, life becomes empty and dull.

## What Values Can Do For You

Values are chosen qualities of being

and doing, such as being a caring parent, being a dependable friend, being loving, loyal, honest, and courageous. They can be expressed with verbs and adverbs, like *teaching compassionately* and *giving gratefully*. However, they are not goals. Goals are finite; they are achievements, and once you reach them, you are finished with them. Values, on the other hand, are enduring, eternal guides to living. You cannot achieve a value; you can only manifest it by acting in accordance with it.

Your values not only tell you where to focus your efforts and energies but also provide you with a new source of motivation. The pain you have had to endure along your journey becomes much easier to bear when it's in the service of your goals and values. And acting in line with your heart's deepest desires brings a sense of fulfillment

and vitality that no material wealth can match.

The values you choose are completely up to you. If you're unclear what those values might be and how to implement them, here are a few steps. ■

**Steven C. Hayes, Ph.D.**, a Nevada Foundation professor at the Department of Psychology at the University of Nevada, is the author of *A Liberated Mind*.

## Know Your Heart's Deepest Desires

### 1. Rate Your Life Domains

The following exercise is based on the Valued Living Questionnaire by Kelly G. Wilson. Take a look at the following life areas, and rate their importance on a scale of 1 to 10 (1 = less important; 10 = highly important). This is for you and nobody else. There are no right or wrong answers.

- Family (other than marriage or parenting)
- Marriage, couples, intimate relations
- Parenting
- Friends, social life
- Work
- Education, training
- Recreation, fun
- Spirituality
- Citizenship, community life
- Physical self-care (diet, exercise, sleep)
- Environmental concerns
- Art, creative expression, and aesthetics

### 2. Rate Your Consistency

Look at the life areas above once more, but this time rate yourself on how consistent your actions have been with your values.

### 3. Write Down Your Values

Take a look at your answers from the previous exercises and identify the domains that have a high score in importance, 9 or 10, and a low score, 6 or less, in actions. These are areas that need your attention.

Write down your values in one of your previously identified domains. Ask yourself: "What do I care about in this area?" "What do I want to do in this area that reflects that caring?" "What can I do to manifest this value more in my life?"

Writing about your values has a measurable effect on your health and behavior, and this is only the beginning. There are many ways to connect deeply with your purpose and live in alignment with your goals and values.

Living in line with your values is not just about knowing what matters but also about acting according to these principles. It's not a one-time choice but a lifelong journey of choosing and committing. Again and again.





**Peter  
Waldman**

Artisan, glassblower,  
and balloon man

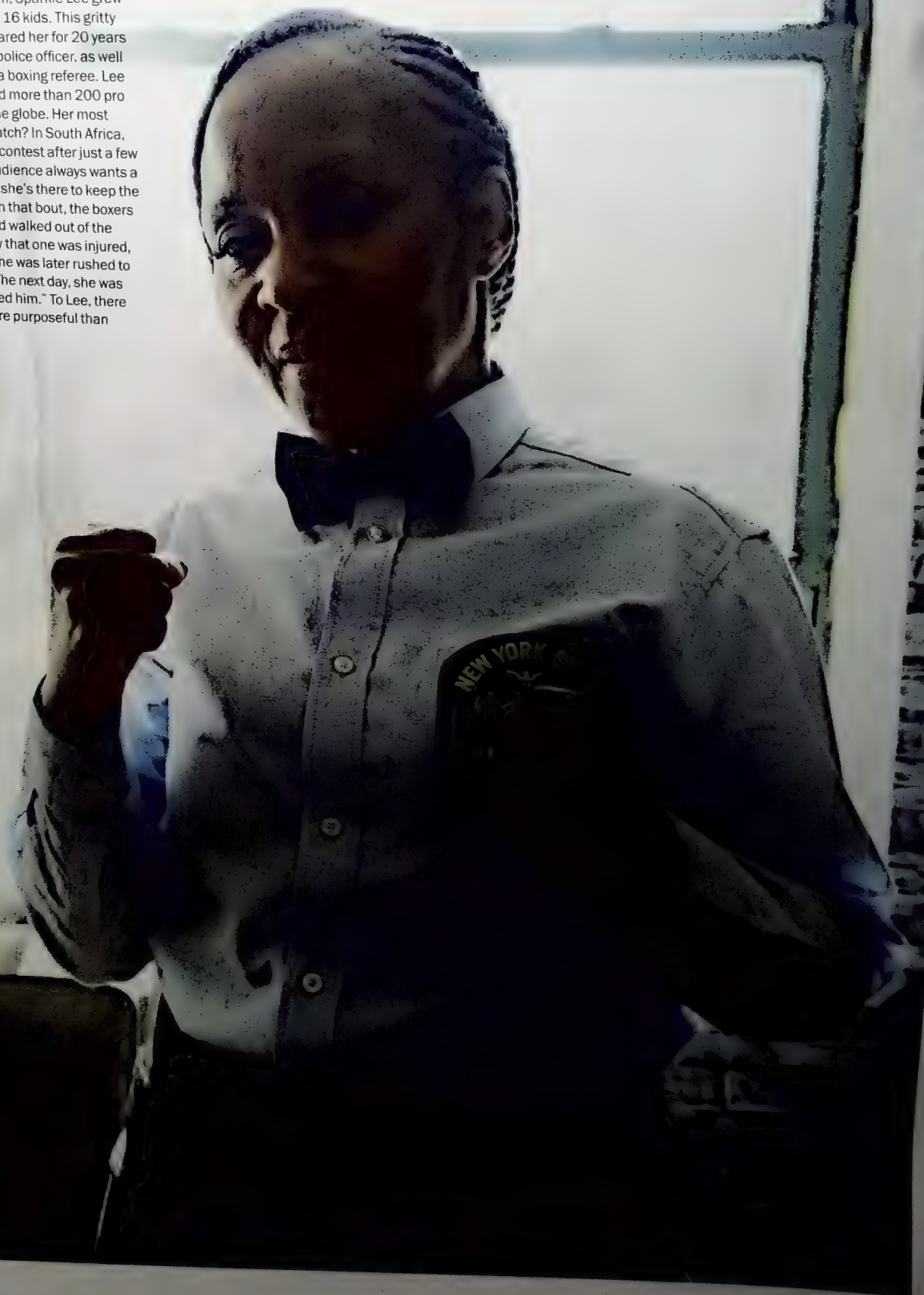
Peter Waldman is never without a balloon. Even out to dinner, he will pause and twist up a creation if there's a child nearby. For the past 40 years, Waldman has been in parks and public places around New York City dispensing balloon animals to eager children. The Brooklyn-based artisan feels fortunate that his day job is his passion. When health problems and a fire at his studio brought him to his lowest moments, he took stock of what mattered most in his life: Making children smile, creating memories, and sending love out into the world. This is the work that feeds his soul. "The amount of respect I get from kids is shocking," he says.



## Sparkle Lee. 62

Grandmother, former police officer,  
dancer, and boxing referee

Raised in Harlem, Sparkle Lee grew up in a family of 16 kids. This gritty childhood prepared her for 20 years of service as a police officer, as well as her work as a boxing referee. Lee has adjudicated more than 200 pro fights across the globe. Her most memorable match? In South Africa, she stopped a contest after just a few rounds. The audience always wants a good fight, but she's there to keep the fighters safe. In that bout, the boxers looked fine and walked out of the ring. She knew that one was injured, however, and he was later rushed to the hospital. The next day, she was told, "You saved him." To Lee, there is nothing more purposeful than saving a life.





# How “I Have To” Becomes “I Want To”

MEET YOUR GOALS BY MAKING THEM PURPOSEFUL.

BY MARK TRAVERS, PH.D.

WE GENERALLY ASSUME that facing too many obstacles while pursuing a goal takes a toll on our motivation level. However, a study published in the *Journal of Research in Personality* turns this logic on its head, suggesting that it is actually our motivation that determines the number and difficulty of obstacles we face.

“When pursuing a goal and trying to change their behavior, most people have great intentions. But often those intentions don’t translate into action,” says Marina Milyavskaya of Carleton University in Canada. Any temptation that stands in the way of our attaining our goals constitutes an obstacle. For example, junk food is an obstacle when our goal is to eat healthily, and cellphones and other distractors are obstacles when our goal is to study or work.

Obstacles, and their level of difficulty, can be perceived differently by different people. Individuals’ personality, the type of goal they are trying to achieve, and the strength of their desire are all factors that play a part in determining their perception of and relationship to obstacles.

Another important factor is the type of motivation. The Carleton study distinguishes between two different kinds of motivation we experience while pursuing a goal:

*Want-to* motivation represents our internal motivation—doing something because it’s personally important to us,

it’s interesting, or it fits well with our values.

*Have-to* motivation involves behaviors that we feel we should be doing—either because someone else requires or expects it of us or because we would feel guilty if we didn’t engage in those behaviors.

The researchers conducted seven studies testing participants’ motivation levels by assigning them different tasks and exposing them to various temptations, like pizza during a boardroom meeting.

They found that people who showed *want-to* motivation—that is, people who did the tasks with feelings of personal interest—consciously placed themselves away from obstacles, thus making goal-attainment easier on themselves. The opposite was true for people who were functioning with *have-to* motivation.

Goal pursuit is not about being extraordinarily strong. Instead, it’s about knowing the things that make us weak and keeping a safe distance from them.

How does this solve the motivation problem? Milyavskaya offers two suggestions to help tackle the unavoidable problem of doing things because

we have to do them. Instead of groaning your way through such a task every single time, generate *want-to* motivation. Think about how the task fits into your values and identity. Reframe it as something that is more *want-to*. Maybe I value being a conscientious worker; completing that dreaded report fits in with this value. Or, I want to eventually become a veterinarian; doing my math homework is important to accomplish that goal. Make it more pleasurable in

the moment. Pair it with something that is fun or enjoyable, such as listening to music.

“If you find you are pursuing a goal for *have-to* reasons, then you are more likely to struggle with that goal,” she says. “Perhaps it’s worth replacing that goal with a goal that is more personally meaningful or important. Or, instead, find more *want-to* reasons for going after that same goal.”

To approach a task with an intrinsic sense of purpose gives you the best shot at truly, and happily, accomplishing it. ■

**Mark Travers, Ph.D.,** is a psychologist with degrees from Cornell University and the University of Colorado Boulder.

Goal pursuit is about knowing the things that make us weak and keeping a safe distance from them.



# How to Make an Impact In 30 Seconds

A SINGLE, SMALL ACT OF KINDNESS CAN BE MEANINGFUL TO EVERYONE TOUCHED BY IT.

By Beth Kurland, Ph.D.

ON THE DAY of my mother's funeral, I remember sitting in the back seat of our car and seeing two old friends of mine from elementary school arriving. I was 15 at the time. It had never occurred to me that they would miss school to be there for me. This simple act of support meant more to me than they will ever know.

Fast-forward about two decades to the day my daughter was sent home from school with head lice. My friend showed up unexpectedly at my door and spent hours with me, helping to wash all the sheets and clothing, and keeping me tethered in my frantic state. These acts of kindness are indelible in my mind, and their power is immeasurable.

## The Power of Kindness

The value of small and random acts of kindness is greatly underestimated by the one engaging in the kind act; the person receiving the kindness is far more positively affected than the altruist imagines. In a series of studies that appeared in the *Journal of Experimental Psychology*, participants at an ice-skating rink who were given hot chocolate had the opportunity to give away their cups to a stranger. When they were asked to rate the impact of this on the recipients, their estimates were far lower than what the recipients actually reported.

In another study involving some participants receiving cupcakes for being part of the research, those given the

opportunity to give away their cupcake again far underestimated the positive effect this would have on the recipient. Interestingly, recipients of the cupcake who knew it was coming from a stranger as a random act of kindness felt a stronger positive impact than those who simply received the cupcake as a thank-you gesture for being part of the study. The researchers suggest that there may be many missed opportunities for kindness because people undervalue the positive effect of their behavior.

Small acts of kindness have a broad-reaching effect and can even stir our autonomic nervous system.

## How 30 Seconds Can Change Lives

When I was anxious about a medical procedure I was preparing for, it made a huge difference when my doctor sat down with me, looked me in the eyes with kindness and presence, and said, "Tell me all the questions you have and let me see if I can answer them." Feeling confident that this doctor cared helped me tone down my fight-or-flight response during and after the procedure. When our autonomic nervous system is in a state of calm, safety, and connection, our bodies can better restore, heal, and repair.

## Making an Impact In 30 Seconds

Small expressions of kindness and compassion can make a profound difference in people's lives, no matter what we do for a living or what our relationship

is with that person. And we don't need a lot of time to do it. All we need to do is take action.

## 1. Think about a time you were the recipient of an act of kindness

It could be something small, such as a stranger in the grocery store saying a kind word to you. Whatever you are thinking about, make this moment as vivid in your mind as possible. Remember what it felt like to receive this kindness.

How does this feel in your body right now? Be curious about the area around the center of your chest, note any openness, warmth, or expansion.

## 2. Think about one kind thing that you could do for someone in the next day or so.

It could be simple and small, something that takes just 30 seconds, such as scrawling a kind note to your restaurant server on the receipt you sign or telling one of your employees or coworkers how much you appreciate them. As you think of doing this, picture the positivity that the recipient will feel. Now double or triple this because you are likely underestimating the impact.

## 3. Don't hold back. Engage in an activity of your choice or anything that presents itself.

Here is my list:

- \* Text my neighbor that I have extra room in my recycling bin this week if she has overflow.
- \* Reach out to a friend who recently had surgery and ask how he is doing.
- \* Tell my kids how proud I am of them.
- \* Offer heartfelt thanks to the store cashier.
- \* Send a note to the creator of an online course I'm taking; tell them how much I'm learning.

Don't underestimate the value of these small moments. They may seem minor to you, but you never know how much they boost a person and make a difference in their life. 🌟

**Beth Kurland, Ph.D.**, is a clinical psychologist and the author of *Dancing on the Tightrope*.





**Maria Moss, 40,**  
Mom of three, acting student

In her youth, Maria never knew her grandparents. Before she was born, they had disowned her parents, who had joined a religious cult. At age 21, while she was on leave from active duty in the Army, she traveled to California and knocked on their door. This simple but courageous act changed everything for her family. Her parents and grandparents went on to have a meaningful relationship with each other. On one Thanksgiving, her grandma grabbed Maria's hand and said: "You know, it was you. It was you who really changed my life."

## The Moments That Give You Meaning

FINDING MEANING MAKES US HEALTHIER AND MORE FULFILLED.

By Andrea Bonior, Ph.D.

HOW DO YOU find meaning in a world that offers no shortage of stress, in a life that is filled with the worries of getting through the responsibilities of the day? Unfortunately, many people struggle to connect with that deeper sense of meaning. If you want to begin to think more

deeply about this, there are some simple questions to ask yourself.

### 1. When are you in flow?

Psychologist Mihaly Csikszentmihalyi has studied the concept of "flow," a pillar of positive psychology research that he pointed out in the 1970s. When you are in flow, you are so fully engaged and immersed in an activity that you feel relaxed but also challenged, interested but not stressed. It is doing something where you lose your sense of time, and you focus only on the task at hand, in a positive way. It is the opposite of clock-watching, where you want the task to be over. What types of activities bring you to this state? Are there parts of your job that you love and that you feel make the time speed by? Are

there hobbies that seem to make a Saturday afternoon disappear in a good way? Are there people you spend time with who help you forget your worries, get rid of past baggage and future concerns? These clues can help fine-tune what resonates with you most deeply.

### 2. Whose faces do you see when you think about love?

Not everyone's sense of meaning or purpose is intrinsically tied to other people, but for many, relationships with others are the foundation of it. Or perhaps it's not necessarily people but certain animals with which you have the most profound connection. What does love mean to you? When you imagine the faces that

**PURPOSE** continued on page 44





# How To TALK To Your Partner



When one partner's efforts to help the other, or even just to ask them about their feelings, meet stiff resistance or stoic silence, a relationship's foundation can begin to crumble, as one missed opportunity to connect leads to another and, eventually, to conflict or entrenched disengagement. Two experts suggest research-based paths to help couples break through these emotional blocks.





# I'm Your Partner, And I'm Here To Help

By Dave Smallen, Ph.D.

ONE OF THE major roles relationship partners play in each other's lives is providing support—and the quality of that support affects their satisfaction and personal well-being. Couples aid each other in a range of ways, from helping with household tasks to cheering each other toward personal goals to just being there with an ear to listen and a shoulder to cry on.

Researchers commonly classify support within a relationship into three categories: emotional support (concern, empathy, love, or encouragement); tangible support (help with tasks like cooking or managing finances); and informational support (sharing news, facts, or advice). Unfortunately, couples often run into a mismatch between the support one partner seeks and the type the other offers in response. When couples aren't able to find their way from such mismatches to alignment, they can miss opportunities to connect.

One classic mismatch occurs when a partner shares something causing stress, sadness, or frustration, and the other responds by jumping in to “fix” the problem or offering suggestions to that end. When someone opens up to a partner about their challenges, such as by venting about issues they are dealing with at work, they are often

seeking emotional support—to be heard and shown compassion in their present struggle—rather than soliciting advice or assistance. If their partner instead turns the conversation to fixing the issues through tangible or informational support, they may feel emotionally invalidated—and more stressed. At the same time, the partner trying to offer their particular type of support may feel confused, frustrated, or rejected: In their eyes, a valid bid to help was poorly received. As this push and pull plays out, a couple can fall into conflict, each upset that the other doesn't understand them.

When a partner reaches out to you for emotional support, it may not always seem so, but it's actually a very practical ask—even if all they want in the moment is to share their feelings and connect and find comfort with someone who cares about their ups and downs. Supporting them in processing their anger, comforting their sadness, or regulating their anxiety is constructive because it helps them shift into an emotional state in which they feel grounded enough to respond to their own struggle.

Conversely, some partners are less comfortable receiving emotional support and prefer tangible help when they feel stressed. When they have a pressing need for information, advice, or hands-on help, their partner's emotional support may feel beside the point.

## Elusive Alignment

Considering the many possible feelings and needs at play in a given moment, it would certainly be useful for couples to make time with each other to talk about the kinds of support that best fit certain situations.

Being clear about the type of support you are seeking helps a partner better show up for you. No matter how well couples know each other, they can't read each other's minds, so be specific about what you want from your partner when you reach out. Perhaps you could use a hug and emotional validation, or maybe you want their advice.

And when your partner comes to you for support, first ask what kind of help would be most welcome—or just start by expressing empathy and then check in to see if they also feel they need either informational or tangible aid. Showing that you understand the problem and care enough to assist in a way that recognizes and respects their preferences builds closeness and trust.

Misattunement and conflict can happen in healthy relationships. Getting yourselves in alignment when it comes to support takes trial and error. You may miss the mark before showing up in a way that genuinely helps, and that's OK. Communicating about how these bids for support go awry gives you and your partner the chance to practice the vital relationship habit of finding your way back from mismatch to connection. ■

**Dave Smallen, Ph.D.**, is a research psychologist and community faculty at Metropolitan State University.



# I'm Your Partner, And I'm Shutting Down

by Susan M. Lambert, Ph.D.

WHEN A PARTNER seems perpetually unhappy and seemingly unable to find joy in their life, it's natural to reach out to try to discuss their feelings with them. But what if they refuse to engage? Imagine you've just had an otherwise pleasant evening with relatives that was marred by a tactless remark someone made toward your partner. When pressed about it on the way home, though, they just say, "It's fine, I don't care," and leave it at that.

If such shoving aside of negative feelings is typical, your partner may be sticking to a kind of stoic attitude that holds that any exploration of emotions is taboo. You don't want to keep prodding and poking, but you also wish there was a way to help them become more comfortable talking about their feelings.

New research by Victoria University of New Zealand psychologist Johannes Alfons Karl and colleagues suggests that "naïve Stoicism" could be at the heart of some people's tendency to clam up in emotionally arousing situations.

Classic Stoicism, as represented in ancient Greek philosophy, involves thoughtful engagement with negative thoughts and the cultivation of moral ideals. In fact, the modern practice of cognitive behavioral therapy, often employed to help those with depression and a range of other mental health concerns, is based on exactly this type of classical thought. A therapist typically tries to help clients delve into their feelings as the critical first step to changing the way that they engage with troubling situations. In naïve Stoicism, though, such nuances are ignored and individuals adhere to a counterproductive set of beliefs emphasizing the nonexpression, if not the active suppression, of emotions.

## Refusal to Engage

How does a rigid refusal to engage with emotions affect someone, and how could their partner help them open up? To begin, the research team sought to determine whether people scoring high on a measure known as the Pathak-Wieten Stoicism Ideology Scale (PWSIS) would also have low scores on gauges of well-being and happiness.

The PWSIS evaluates endurance ("I expect myself to hide my aches and pains from others"), taciturnity ("I don't believe in talking about my personal problems"), serenity ("I would prefer to be unemotional"), and death acceptance ("I would not allow myself to be bothered by the fear of death"). People scoring high on the scale tend to squelch emotions and push away a range of problems. Including the fear of death on such a scale may seem out of place, but the researchers contend that it's reasonable for people to express at least some anxiety about death, and those who pretend otherwise—such as so-called naïve stoics—deny a universal element of human experience.

Now think about how your partner would reply to those sample phrases above, and consider whether naïve Stoicism characterizes their approach to life. For example, try to recall a situation in which you both witnessed a very sad event, either directly, on the news, or in a movie. Did your partner show any emotion at all? Could you detect even the slightest hint of sadness?

The research team recruited three groups of young adults for their study, in the U.S., Norway, and New Zealand. They found that participants who scored high on all elements of the PWSIS had lower levels of both eudaemonic well-being, the sense of flourishing and finding meaning in life, and hedonic well-being, or feelings of

COMMUNICATION *continued on page 45*







**Rx**

**John Smith**  
000-0000

**10 Doses**



# THE NEXT MINDBEND

Beyond the hype, psychedelics are in the pipeline for a remarkable range of mental health disorders, from anorexia to substance addiction. It may be that they give the brain a shot at a do-over.

PHOTOGRAPHS BY MOYA MC ALLISTER



## What Does The Psychedelic Experience Feel Like?

**At the center of the psychedelic experience is the sense that you are not the center of it all—and that is liberating, exhilarating, and possibly life-changing.**

BY GARY WENK, PH.D.

**E**VERY MOMENT OF every day, courtesy of the neurotransmitter serotonin, your brain is processing sensory information, such as sights and sounds, and synthesizing it into your sense of self and your sense of place in the environment. You experience this self-referential awareness of a coherent whole as a “self” or “ego.” This sense of self feels rather fixed, static, but it is not. It’s constantly being updated by incoming sensory experiences.

The psychedelic experience feels as though this self-referential moment-to-moment updating of the ego has suddenly disappeared. The perception of our familiar self vanishes. The name given to this experience is ego death or ego dissolution. This distortion of our subjective experience of self is central to the psychedelic experience. People describe ego-dissolution as a diminished sense of self and an increase in the feeling of being at one with the universe, an experience felt as enriching.

However, my students also describe losing their sense of being grounded in the present, feeling disoriented, as though everything was unfamiliar. One student complained that she “lost all sense of myself.” This aspect of the psychedelic experience can increase feelings of anxiety and fear.

The psychedelic experience also includes an increase in emotional empathy, the ability to respond to another’s mental state. People report a greatly enhanced

sociability, as though they have “taken off the mask they wear around others,” or that the personal “wall” that separates them from others has fallen. Because our ego separates us from others, ego-dissolution causes us to feel much closer to other people, whether we know them well or not.

Some psychedelics enhance visual imagery and the mixing of audio and visual sensory experiences so that colors might give off sounds. One student said that she watched the colors in a rug slowly rise up into trails of colorful smoke rings. Another had a conversation with her toaster one morning. Studies of rock carvings from Central America compared to drawings from modern subjects demonstrate that psychedelics produce geometric imagery of a consistent nature, regularly featuring latticework patterning, cobweb structure, and tunnel or funnel effects with spirals. Images tend to pulsate and move toward a cen-

**The self-referential moment-to-moment updating of the ego seems to disappear. People feel at one with the universe.**

ter tunnel or away from a bright center. The brightness intensification most users report is due to the dilation of the pupils caused by the drug.

Psychedelics have another feature in common: They have few negative cognitive effects; intellectual or memory impairment is minimal. They do not cause a stupor or narcosis as alcohol and heroin do. And they do not produce excessive stimulation like that experienced with cocaine and amphetamines.

What gives most psychedelics, including the so-called “classics”—LSD, psilocybin, DMT, and mescaline—their many, and many powerful, attributes in common is that they act on the serotonin neurons and receptors in the body and

brain. Although there are only a few hundred thousand serotonin neurons in the human brain, they influence the function of virtually every brain region and thus every aspect of normal waking consciousness. Not only is serotonin involved in processing sensory information, it also influences emotional responses, such as fear, excitement, and empathy. Further, serotonin neurons control heart rate, respiration, and the release of hormones by influencing the autonomic nervous system.

Not all psychedelics produce the same experience because not all psychedelics act on serotonin receptors; the psychedelic experience depends on which neurotransmitter receptors the agent is targeting. For example, extracts of the mushroom *Amanita muscaria* alter the function of acetylcholine neurons. Acetylcholine is involved in processing neural activity in an area of the neocortex devoted to vision. Users of this mushroom report that normal objects appear bigger or smaller than they truly are—an effect called macropsia or micropsia, respectively. Lewis Carroll incorporated the effects of this mushroom into *Alice’s Adventures in Wonderland*.

Although they have been demonized in the United States since the 1970s, psychedelics, found naturally in a number of plants, have played a significant cultural role since ancient times, notably in religious ceremonies to facilitate communication with the gods. Typically, strict cultural rituals developed around the psychedelic experience. For example, only persons of high religious rank could consume mescaline, extracted from the peyote plant. Those of lesser status were accorded the honor of drinking the urine of these individuals.

Research into natural psychedelics and a growing array of synthetic variants has been accelerating over the past two decades. The commonly reported experience of increased social connectedness—enabled by a decreased sense of self and the dissociating of attention from personal concerns—and the development of wonder and appreciation for life give psychedelics considerable potential for human transformation in troubled times. ■





## A View From The Lab

**Psychedelics switch the brain away from existing beliefs toward sensory information—an act of potential benefit to people trapped in repetitive thought or behavior patterns.**

BY PAUL CHADDERTON, PH.D., AND  
CAROLINE GOLDEN, PH.D.

**P**SYCHEDELIC COMPOUNDS can produce intense, profound experiences and have shown promise in

the treatment of PTSD and treatment-resistant depression, among other psychiatric conditions. Yet what is actually happening in the brain to produce psychedelic effects?

In a paper published in *Scientific Reports* in July 2022, we looked at the acute effect (or peak experience) of a 2mg/kg dose of psilocybin on the brains of awake mice, using electrodes that enable the recording of neural activity from single neurons, networks of neurons, and cumulative brain-wave activity. While there are different ways to estimate the human equivalent dose that would produce similar effects, we can say with confidence that this is a strong though still

clinically relevant dose. We placed electrodes in the anterior cingulate cortex, an area of the brain known to be associated with emotional processing and internal awareness (interoception).

There is evidence that the anterior cingulate is key in the appraisal of fear- and anxiety-evoking stimuli—unsurprising given the strong functional connections that exist with the amygdala, one of the key emotion-processing centers in the brain. The anterior cingulate is part of the broader prefrontal cortex, critical in functions such as cognitive and emotional processing.

Psilocybin had a profound effect on brain-wave oscillations, which are

thought to influence the communication patterns both within and among different areas of the brain. Brain oscillations can be divided into different bands, depending on their frequency, and different bands are proposed to serve different roles in brain communication. Slower oscillations, such as theta and delta waves, mediate communication among distal brain regions, whereas faster waves, such as gamma oscillations, are thought to represent local communication within specific regions.

Psilocybin significantly reduced slow-frequency oscillations and increased high-frequency oscillations, suggesting that the anterior cingulate becomes less influential over other brain regions, including the amygdala. In addition, neural activity in the anterior cingulate became more excitable and chaotic: Individual neurons became less synchronised with brain oscillations, consistent with the theory that psychedelics increase brain disorder, or entropy.

Our data suggest that psychedelics disrupt the influence of top-down brain modulation in favor of incoming sensory input, driving the brain to rely less on pre-existing beliefs and potentially enabling novel responses to incoming information. They support the REBUS (relaxed beliefs under psychedelics)

model of psychedelics.

The switch in focus away from prior beliefs towards sensory information may be of fundamental significance for conditions such as depression. One debilitating aspect of depression is rumination, getting trapped in negative thoughts. Psychedelics may provide opportunities to break the cycle, to propel a person onto a better trajectory.

Psychedelics may also transiently return parts of the brain to a malleable, or plastic, state. Neural plasticity is typically greatest early in life, during childhood and adolescence. Once this window closes, learning ability slows. Psychedelics may reopen brain pathways to learning, enabling the weakening of negative memories and the formation of new, more positive patterning. Either or both actions could be highly beneficial in a variety of psychiatric conditions.

There are now many clinical trials not only of psilocybin but of other tryptamines, such as DMT and LSD, and more pharmacologically divergent psychedelics. Increased brain entropy has been shown with LSD, DMT, and ketamine. Not a true psychedelic but a dissociative agent, ketamine acts upon a different class of brain receptor—glutamate, not serotonergic 5-HT2A re-

ceptors. But it also shows promise as a rapid-acting antidepressant. Increased entropy could be reflective of a shared therapeutic mechanism, reachable via different neurotransmitter pathways.

Psilocybin, LSD, and DMT also all decrease functional connectivity within the default mode network (DMN), a group of interacting brain regions most active when the mind is internally focused. The DMN has a host of regulatory functions and is responsible for maintaining our sense of self, or ego, and of our place in the world.

The ego-dissolving effect of psychedelics enables people to see their thoughts and life from a less subjective, more objective standpoint—a feat achieved by experienced meditators as well (meditation has also been shown to reduce functional connectivity within the DMN). Ego dissolution may provide the link between psychedelic action and therapeutic effect in the brain. ■

## A Return To Neural Childhood

**There's evidence that psychedelics pharmacologically restore critical periods of learning that close after adolescence.**

BY HARA ESTROFF MARANO



**Y**OU'VE NO DOUBT heard the news. The world of psychiatric care is bracing for a major shake-up. Clinical studies of an array of psychedelic agents are underway for an astonishing range of conditions—from depression, anxiety, and obsessive-compulsive disorder to addiction, stroke, and anorexia, not to mention dementia and end-of-life terrors. The psychedelics, which promise lasting benefits with a shockingly short course of therapy, are substances that have been banned under federal statutes since 1970, deemed to have “no therapeutic potential.”

If MDMA passes a second round of Phase 3 clinical trials the way it did its initial ones, it is likely to be the first psyche-



delic available at a treatment center near you. In those trials, reported in *Nature Medicine* in June 2021, 67 percent of patients no longer qualified for a diagnosis after three treatment doses, each followed by three sessions of therapy to integrate the insights gained. And symptoms were still improving more than a year later.

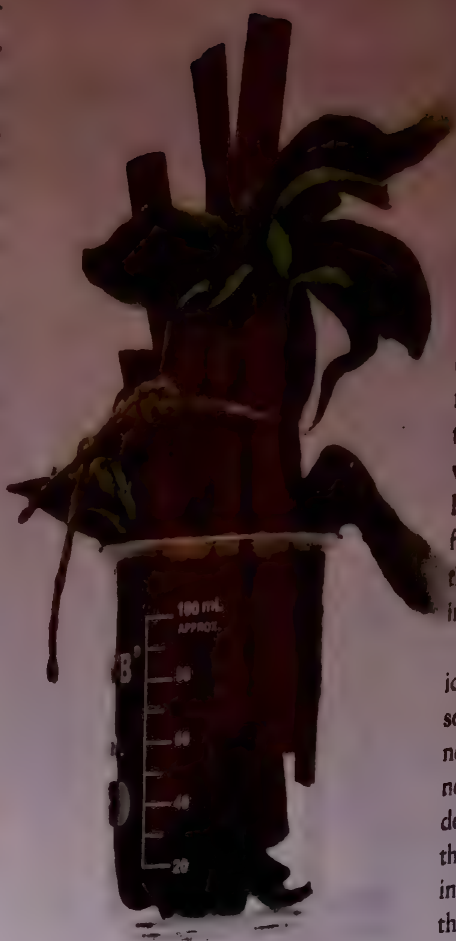
"MDMA makes therapy especially effective," says Rick Doblin, Ph.D., who in 1986 founded the Multidisciplinary Association for Psychedelic Studies (MAPS) as a nonprofit to produce pharmaceutical-grade MDMA and develop research protocols for the agents. Clinical trials of therapy with either inactive placebo or MDMA show that the psychedelic alone had a therapeutic effect size of 0.91—but combined with therapy it jumped to 2.1.

MDMA-assisted psychotherapy is marching toward approval by the U.S. Food and Drug Administration for treatment of PTSD in 2024. Depression, anxiety, and substance abuse will not be far behind. Although not a classic psychedelic, MDMA alters perception, and influences the release of serotonin and other neurotransmitters, especially the hormone oxytocin. "It's the gentlest of all psychedelics," says Doblin.

"If you combine these agents with really good psychotherapy, you can reach insights that turn life around," says neuroscientist Rachel Yehuda, Ph.D. Psychedelic-assisted psychotherapy (PAP) works for so many indications, researchers believe, because the substances target the prefrontal cortex—the brain region central to so many neural operations and involved in so many disorders—and revamp its structure.

Drugs that induce the psychedelic experience share a molecular mechanism of action—they activate a specific receptor on neurons, the 5-HT<sub>2A</sub> serotonin receptor. They are, in the language of neuroscience, receptor agonists. But they act on a particular subset of neurons in the cerebral cortex, so-called layer 3 and layer 5 pyramidal neurons—essential for integrating incoming information across multiple brain areas to give us our experience of reality.

Psychedelics cause the pyramidal neurons to fire in a very disorganized way,



Volunteers described taking DMT as more real, more convincing, more meaningful than any other experience.

messing up all the inputs, says Bryan Roth, M.D., Ph.D., a distinguished professor of pharmacology at the University of North Carolina and the head of its psychoactive drug-screening program. "Beyond that, the brain basically makes up a story," he says, "with people interpreting the experience in very idiosyncratic ways."

In 2009, Roth's lab discovered that psychedelics target the pyramidal neurons to amp up the production of dendritic spines, vastly expanding synapse formation and the neurons' capacity for incoming information. That is, they jump-start neural plasticity, an effect

that has led some to view them as "psychoplastogens." The neuroplastic effects are not only long-lasting but "we think they are responsible for the therapeutic actions," says Roth.

Beyond mobilization of the 5-HT<sub>2A</sub> serotonin receptor, there is no unified theory of psychedelic action; the line from receptor fit to changed life can be only faintly sketched. "We have evidence from mice suggesting that these drugs turn on a whole gene transcriptional network related to synaptic plasticity," says Roth, and that is "the physical substrate for maintaining the sense of meaning these drugs impart. It has to be encoded in the brain in some way."

There's also evidence that psychedelics stimulate hyperconnectivity between sensory brain regions as they relax connectivity in the self-involved default mode network. In doing so, they mimic neurodevelopment, pharmacologically creating the optimal brain state for environmental input to have enduring effects; in short, they reopen critical periods of learning that otherwise close after adolescence.

The opening is felt bodily, says Yehuda, the director of the Traumatic Stress Studies division at Mount Sinai School of Medicine. Yehuda is conducting clinical trials of psychedelic-assisted psychotherapy with MDMA for PTSD and psilocybin for depression. "Not everybody gets the miracle the first time," she observes, "but what people do get is a sense that something can be opened up. They have to do a lot of psychological work after taking a psychedelic, but they approach it from the art of the possible."

Therapy is essential, she believes, to help patients explore material that normally stays hidden "because there is a part of them that is protecting themselves from the wounds that might occur if they confront the distressing material. Therapy helps a person reach deeper to reorganize their consciousness for just a few hours." As Doblin puts it, "Difficult is not the same as bad." PTSD patients particularly are dealing with enormously challenging content. "MDMA makes the

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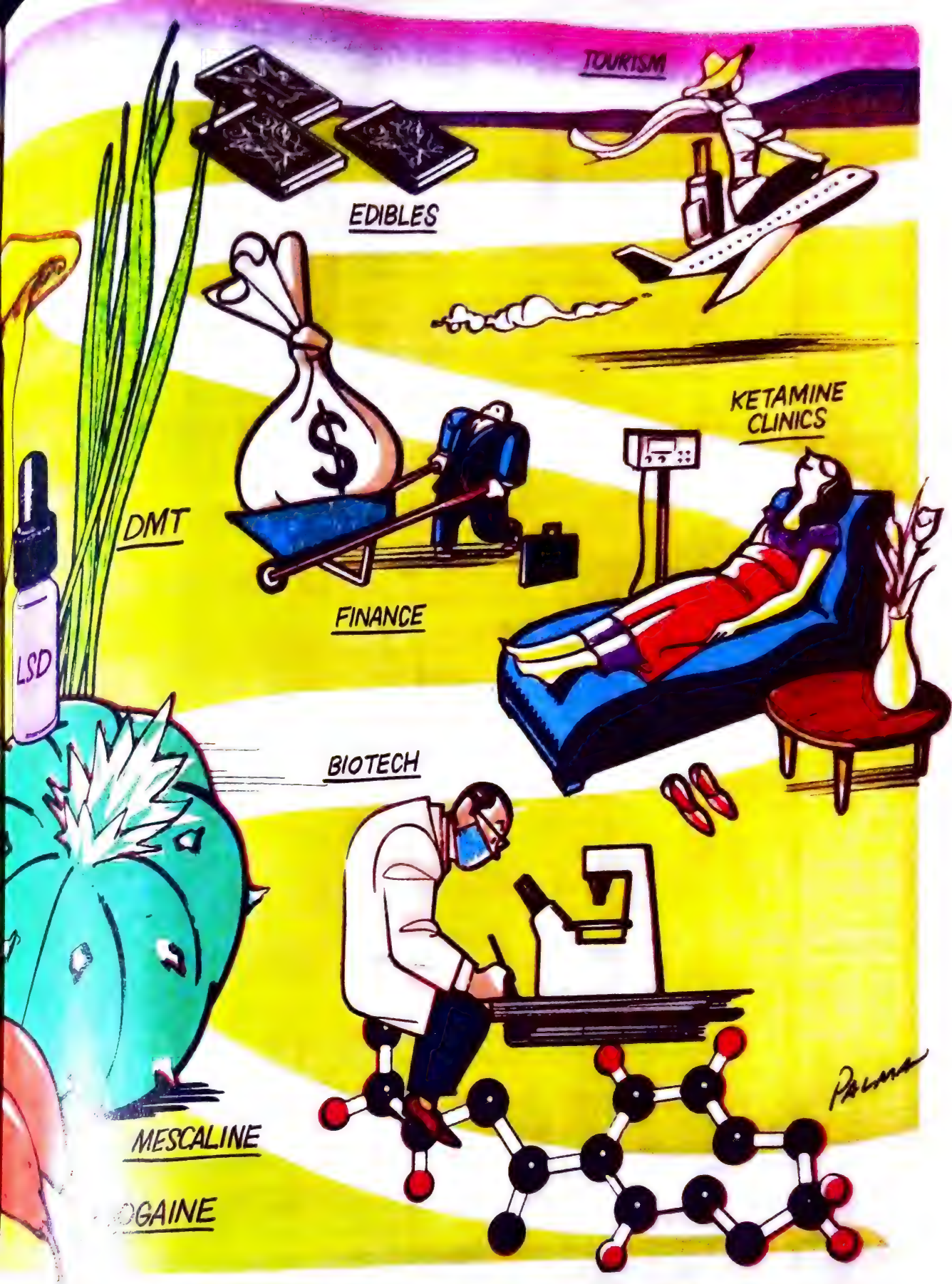


# Psychedeliland

THERAPY'S NEXT FRONTIER

ILLUSTRATION BY ERIC PALMA





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embody it, who comes to mind? It is not uncommon for someone to believe that the true meaning of their life comes not from professional pursuits, but from other people. Or perhaps it is both professional and personal: the organization you work for, the people you volunteer to help, or the community or cause you have come to believe in. Love can mean many things to many people, but when you imagine what it means to you, it can often point you in the right direction of your purpose—thinking about the reason that you are on this Earth and the legacy you want to leave behind.

### **3. What are you most willing to put effort into?**

We all have different levels of motivation for different tasks, and some activities feel almost effortless because we like doing them so much. Think about when you actually enjoy hard work. Paradoxically, of course, those activities likely don't feel like work—at least not in the same way completing work you don't enjoy does. This old saying is true: "Find something you love to do, and you'll never work a day in your life." Of course, many of us will never truly love our jobs, and that's OK. And even those of us who have been able to feel passionate about our work may go through many periods of feeling taxed, stressed, and overworked by those same careers. But if you can examine your patterns about what you have worked hard for—and have wanted to work hard for—this will help you determine what types of pursuit are most worthy of your time and of your heart and soul.

### **4. If you were to write your own obituary, what would it say?**

As much as this can feel like a morbid exercise, or even a silly one, imagining what you want your life's legacy to be can help in the search for purpose (Andrea Bonior died Monday, as the first 107-year-old to win a basketball championship in space). Looking back on your life as it nears its end can truly be useful in determining what you want to devote your most precious time to. Those who work with people who are at the end of their

lives say that they tend to see the same regrets over and over again, often involving too much worry about the things that shouldn't have mattered at the expense of those who have come to matter most of all. What do you want to leave behind—tangibly, emotionally, and socially?

### **5. If you had a day free of responsibilities and commitments, what would you do?**

Try, for a moment, to picture a completely blank slate, free of concerns about what happened yesterday and what will happen tomorrow. Of course, you could have the instinct just to relax—to repair yourself with extra sleep, a long Netflix binge, or a massage. Instead, you have already recharged, with your energies and talents ready to be spent on anything of your choosing. What would you devote time to? Remove the to-do checklist that weighs you down and get a better sense of what you would choose to do in life, rather than what you feel you have no choice but to do. In doing so, you can have a clearer focus on how to spend your time. After all, the choice is ultimately yours. ■

**Andrea Bonior, Ph.D.**, a clinical psychologist and lecturer on the faculty of Georgetown University, is the author of *Detox Your Thoughts*.

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## **Make Peace With Yourself**

LIFE IS UNCERTAIN, AND WE DON'T ALWAYS GET WHAT WE WANT.

By Toni Bernhard, J.D.

WE NEED TO be honest with ourselves about the human condition: Everyone is subject to injury and illness; it's a part of being alive. For me, being alive is a gift, even if a mysterious one. That means I want to find ways to live a rich and fulfilling life. But there's no way around it: My chronic illness has drastically limited what I can do.

### **Make peace with your circumstances**

If we had control over our lives, we'd make sure that all our experiences were pleasant ones. But we don't get what we want, or we get what we don't want. This may sound like a dark view. It isn't. I'd rather know what to expect than live in ignorance and be continually disappointed when things don't turn out as I had wished. Accepting that life is uncertain and unpredictable and that we don't always get our way opens the door to living with equanimity—a calm and balanced state of mind that accepts with grace whatever comes. This is a tall order, but it's also the path to peace.

### **Learn to be happy for others**

If the idea of feeling happy for others who are out and about, having a good time, sounds foreign to you, it's not a surprise: The English language doesn't even have a word to describe this feeling. If you try this, it may help you feel better about your limitations. Start by bringing to mind someone who's happy about something that you don't crave yourself, such as winning a sporting event or an Academy Award. As you think about that person's joy, try to feel happy for that person. Once you're able to do that, move on to feeling happy when a loved one is joyful about something.

### **Self-compassion is your priority**

We forget that we should be kind to ourselves. This is the best way to ease mental suffering. Many people find it easy to be compassionate toward others but are their own harshest critics. They don't think they're deserving of their own kindness. But there's never a valid reason to be unkind or harsh with yourself. Of course, you can learn from your mistakes. But learn and move on. Don't get stuck in negative self-judgment over what you said or did. It's hard enough to struggle with your health every day; don't force yourself to struggle with self-criticism, too. ■

**Toni Bernhard, J.D.**, a former law professor at the University of California, Davis, is the author of *How to Be Sick*.



happiness and satisfaction. Men generally scored higher than women on the PWSIS.

## A Path to Openness

People with naïve Stoicism beliefs can change, the team suggests. They have found that the ideology is “malleable and responsive to interventions,” and a shift in perspective should lead to improved well-being and connection. A committed partner can play an important role in opening up a naïve stoic, and these four approaches could be useful.

1. Help your partner understand that there’s nothing weak about showing that something hurts. Help them recognize that it’s normal for experiences like being the target of a tactless remark at a family gathering to cause emotional pain, just as it’s normal for a cut from a knife to cause physical pain. There’s no need to dwell on such incidents, but acknowledging their negative effect can help someone

understand that their feelings about it are acceptable.

2. Share some gentle prompts. When your partner is with you or others to whom they feel close, it may be necessary to help them give voice to the problems preoccupying them—whether it’s an issue at work, something you’re doing that aggravates them, or anything, trivial or profound, that seems to be affecting them. If you notice them shutting down or wonder if something specific is disturbing them, go ahead and ask them to tell you how they feel about it.

3. Address their “serenity” directly. It’s certainly possible that your partner’s family background or life experience has taught them not to tread into emotional territory. And while there can be value in the ability to be unemotional at times when emotions could cloud their judgment, putting the stifling of feelings at the center of one’s overriding philosophy can erode both mental and physical health.

4. Don’t be afraid to talk about

death. The fear or denial of death can be difficult to overcome in anyone. If your partner shuts down or changes the subject every time you bring up topics such as a living will or long-term care, acknowledge that it’s understandable to be reluctant to talk about such issues but point out that by pretending death will never occur, they could cut themselves off from the possibility of fully savoring life.

Although the qualities of Stoicism might seem admirable or even aspirational to some, the belief that it means never showing your feelings or even allowing yourself to experience them will only interfere with well-being and make relationships a challenge. For a naïve stoic, being with someone who can help them open up, and is willing to make the commitment to do it, can truly restore connection. ■

**Susan Krauss Whitbourne, Ph.D.**, is a professor emerita of psychological and brain sciences at the University of Massachusetts Amherst.

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difficult expressible.”

Therapy helps patients metabolize the newly exposed information so they can begin recalibrating their psychological reality. The insight, Yehuda reports, “is not simply cognitive. It’s deeply experienced.” And it is not comfortably contained in current models of scientific explanation. But with new ways of seeing themselves and their relation to the world, patients can begin rewriting their story.

Whatever else the psychedelic experience is, it is intense. The perceptual effects are as emotional as they are sensory. The experience, says psychiatrist Rick Strassman, long a researcher of DMT at the University of New Mexico and the author of the newly released *Psychedelic Handbook*, is more real than real. In his studies of human volunteers given large doses of DMT, “almost all of them declared that what they just went through was more convincing, more true, more meaningful than anything they’d ever ex-

perienced.” It’s the intensity, he believes, that catalyzes therapeutic change—a “positive trauma” that changes one’s life.

Still, psychedelics are not magic pills. Because patients can approach memories and feelings they were unable to access before, they need good guides for interpreting the contents of their opened minds and integrating the insights into their life. And even before the drug is administered, patients need a soothing environment that conveys complete safety, thus minimizing anxiety, and preparatory therapy that sets expectations for the possibility of real benefit—elements that lead some researchers to contend that the real breakthrough of psychedelics is to supercharge the placebo effect.

The therapy now being designed to maximize the benefit of psychedelics differs significantly from current forms of psychotherapy. “It harkens more to psychodynamic models,” says Yehuda. “The idea is to follow the patient’s process and help them explore material that doesn’t usually come out. Therapists

don’t have a clear idea of what’s going to happen but trust the medicine and the patient’s inner healing intelligence. They go with what’s on the patient’s mind in the moment. If you were trained 30 years ago, this isn’t new.”

Psychedelic-assisted therapy will require formal certification of all therapists who want to administer it, and training programs now springing up report no shortage of applicants. But the special conditions, labor intensity, and length of therapeutic sessions are costly and raise serious questions about who will have access to the transformation psychedelics promise.

As a result, a race is on to produce a virgin psychedelic—a molecule that can activate the 5HT<sub>2A</sub> receptor and ignite neuroplasticity without triggering hallucinogenic effects—safe for at-home use. It’s not clear yet whether subtracting the subjective experience still equals therapeutic effectiveness, but three major labs, including Roth’s, all with biotech support, are on the case. ■



## The Language Of Color

**L**AUREN ALYSSA Bierly's mind is a colorful place. She's a synesthete, so colors materialize as she reads, thinks, and meditates. She has long been drawn to the art world—as a child at art camp, a college student studying architecture, and a graduate student in modern art, connoisseurship, and history of the art market. In addition to her work in exhibition management—for the likes of the Costume Institute at The Metropolitan Museum of Art and the Brooklyn Museum—she is an interdisciplinary artist who explores color, language, and sensory experience in her work. Her series *Color Translation*, for example, depicts some of her favorite essays in color.

—Abigail Fagan

**Q How did you capture your experience of synesthesia to help others understand it?** I was in freshman year of college before I realized that synesthesia wasn't something everyone had. I was working on a project with my studiomate in architecture school, and he was coloring in the letters of a project. I asked, "Don't you want to



use the color orange for B?" He questioned that! I told him more, explaining how all the letters have their own colors. He asked me to write the alphabet in color, which I did for the first time. It felt like nails on a chalkboard because, although the colors aligned, his marker set didn't have the right tones. When we told a friend in medical school, I found out the condition is called synesthesia.

Eventually I decided to explore synesthesia in my own work. I thought, *I see all these letters. I wonder what the physical experience would be of what I'm experiencing internally.* I made a sample piece in 2013 of what would become my series *Color Translation*. With random materials I found at Home Depot and other places, I translated Ralph Waldo Emerson's *Nature* into color. When I stood back from it, I thought, *This is it. This is as close as I can get to the feeling.* It was completely different from writing the alphabet freshman year of college!

Being able to explain the condition to someone and then show them what it feels like helps provide an avenue for their curiosity, so they can ask questions and get a better sense of the experience. It's like an invitation to explore neurodivergence. ■



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